

The Commissioners have had the advantage of consulting producers and leading consumers for different purposes in Great Britain and the United States. The opinion is general that the uses of nickel will be extended, and that when normal peace conditions are fully restored, the demand will be greater than it was before the war. A reduction of the price would undoubtedly enlarge the consumption and call for increased production.

The question of competition from other countries is of primary importance.

While competition is not to be feared, it would be futile to try to shut off the supply of nickel from almost any of the great nations. Nearly every important country has supplies of nickel ore which can be worked if the demand is great, thus ensuring a high price.

In the early years of the development of the Ontario nickel industry grave difficulties were encountered. Of the three pioneer companies, only the Canadian Copper Company has survived. The chief difficulties were the economical treatment of the ore, the prejudice of the trade against Canadian nickel, and the limited market. Gradually, and not easily, the obstacles were overcome, and from a weak and precarious infancy, the Sudbury nickel industry has grown to be one of the great metal industries of the world. The market for nickel is much more restricted than for iron, copper and other so-called common metals. Production has to be more closely considered in relation to consumption. Statistics show that at certain periods the output of nickel from Sudbury ores has not shown a normal increase; it has occasionally decreased. This has been chiefly due to the fact that consumption has not kept pace with production. Much has been done by the refiners of Ontario nickel by means of advertising and research to increase consumption and to enlarge the markets.

The proven, or positive, ore of the Sudbury area can be conservatively put at 70 million tons, while it is safe to say that the proven, together with the probable and possible ore supply, exceeds 150 million tons. The International Nickel Company's published estimate of their ore reserves is 57 million tons, which is for three mines only. Although the Sudbury deposits have been worked for twenty-nine years, there is vastly more ore proven in the district to-day than there was five years ago.

In the last few years the proven reserves in the Creighton, Frood and Crean Hill mines of the Canadian Copper Company (International Nickel Company) have been very largely increased. The historic Copper Cliff mine is not exhausted, but is lying dormant simply because the company can mine ore more cheaply from other properties.

Of the Mond Nickel Company's properties, neither the Victoria, the oldest mine of this company and the deepest mine of any kind in Ontario, nor the Garson, another of its older mines, shows signs of exhaustion. The great Levack property has been developed only within the last three or four years into a mine now known to have at least 4,500,000 tons of ore, and it may be added that the ore of this mine has been found to be of higher grade than was thought to be the case in any of the properties in the north nickel range. The Worthington mine, that lay unworked for years, has lately been reopened and possesses important reserves.

The Murray mine, now owned by the British America Nickel Corporation, was operated in the early years of the nickel industry in Sudbury and thought to be of little importance. This mine lies right on the

main line of the Canadian Pacific Railway, three miles from Sudbury, and is one of the best examples that can be cited of a great mine lying for years, after its discovery and after considerable work had been done on it, with its importance unrecognized. Several companies had options on it at various times after the Vivians ceased work over twenty years ago, but it is within only the last four or five years that its greatness has been determined. Diamond drilling has proved that it and the adjoining Elsie property contain at least 8,500,000 tons of ore.

The apparently important discovery by the Long-year syndicate, during the last few months, of nickel ore bodies underlying the heavy covering of drift in the township of Falconbridge, east of the Garson mine, should also be mentioned. The discovery was made by means of diamond drills and proves, what the geological conditions would suggest, that not all the nickel deposits of the district are exposed at the surface. The existence of the Alexo mine, Temiskaming district, in actual operation, so far from Sudbury, is significant of possibilities outside of that area.

No such vast deposits of workable ores, considered as a source of metallic nickel, are known in any other country, and there is no reason to believe that any competition will arise with which Ontario cannot cope.

The competition of New Caledonia calls for special mention. The question has received careful consideration from the Commission, and, in view of its importance, one of the Commissioners, accompanied by the Chief Inspector of Mines, visited and spent some time on the island, where, by the courtesy of the French Government and the officials of the operating companies, they were able to secure first-hand information in regard to its resources and prospects.

For many years New Caledonia dominated the nickel market of the world. With its accumulated experience, the financial support of the Rothschilds, a trade prejudice in favor of its product, and long and favored connections with the principal consumers in Great Britain and elsewhere in Europe before and after the advent of Ontario as a producer, New Caledonia has been unable to keep pace with her younger rival.

When the Sudbury industry began, practically the whole of the world's demand for nickel was supplied from New Caledonia. In 1900 about 65 per cent. of the world's nickel came from New Caledonia and about 35 per cent. from Canada. The world's output has increased fivefold since that time, and Ontario now produces over 80 per cent. of the whole. The production of Ontario in the last 15 years has increased ninefold; the production of New Caledonia by less than 20 per cent.

The chief factor that has enabled Sudbury to outdistance its only serious rival is the difference in the size of the ore bodies in the two countries. The principal Ontario deposits contain ore that is measured in tonnages of millions, while those of New Caledonia are reckoned in a few hundreds of thousands. The greatest of her deposits contained about 600,000 tons; few reached 250,000.

A determination of the ore reserves in New Caledonia is not possible owing to their uncertain character, but it is probably fair to say that the colony possesses at least as much high-grade ore as she has already mined in the forty years of her existence as a producer. This would give a total of, say, 160,000 tons of metal, which would represent about four years' output from Sudbury at the present rate of production.

There being many deposits for selection, the first mines to be worked were naturally the most accessible,